Hearing on Dairy Policy Issues[1]

I appreciate this invitation and opportunity to present some information on dairy policy issues. My intent is to briefly address three areas: (1) an overview and significant trends in the dairy industry; (2) some of the critical policy questions; and (3) some short term projections that emphasize the challenges in front of us in dairy policy.

In Ohio, we identify ourselves as the most eastern Corn Belt state. The 6,130 Grade A dairy farms in Ohio rank among the smallest commercial dairy farms in the United States. In 1983, for example, the average daily quantity of milk shipped per dairy farm in Ohio's two large Federal order milk markets was 1,670 pounds; the other end of that distribution shows Florida markets at 11,000 pounds per producer per day; the Central Arizona market at 20,000 pounds; and California at even larger volume. Our 2,500 Grade B farms in Ohio are even smaller, averaging about 400 pounds per day. Indiana, Michigan, Western Pennsylvania, Kentucky, and West Virginia also fit the Ohio mode in terms of producer size.

Production

To get some insight as to where we are going in the dairy industry nationally, it is necessary to review the major trends.

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[1]Robert E. Jacobson, Professor, Agricultural Economics, The Ohio State University, for presentation to Livestock, Dairy and Poultry Sub-Committee of the House Agriculture Committee, Washington, D.C., March 20, 1985.

Table 1 highlights key factors in the national milk production picture.

Table 1. Number of Milk Cows, Production Per Cow, and Total Milk Production, United States, 1945-1984

Year	Number of Milk Cows	Production Per Cow	Total Milk Production
1945	25,033,000	4,787 Lbs.	119.8 Bil. Lbs.
1955	21,044,000	5,842	122.9
1965	14,954,000	8,304	124.2
1975	11,134,000	10,350	115.3
1984	10,840,000	12,495	135.4

The year 1945 is a convenient starting point for evaluating the data because that is the year of record milk cow numbers in this country. Today we have only 43 percent as many milk cows as we had 40 years ago. Meanwhile, production per cow on average is up 2.6 times from the 1945 level. The 1940s heralded the introduction of artificial insemination. Production per cow, which had been static in the 4,000 pound range for decades prior to that time, began its climb. An important point is that if no other supply factors than production per cow changed over the 1945 through 1984 period, the number of dairy farms required to supply our markets in 1985 would be only 43 percent of the number that produced milk in 1945. The absolute certainty that future increases in production per cow will continue to place heavy downside pressure on milk cow numbers and dairy farm numbers helps focus the policy issue.

Producer Structure

One measure of the huge restructuring of the milk producer sector in the 1945-1984 period is to review data on the number of farms with milk cows.

Year	Number of Farms With Milk Cows, U.S.	Average Number of Cows Per Farm
1945	4,481,384	5.6 cows
1964	1,133,589	13.8
1984	285,740	37.9

The number of farms with milk cows is not the best measure of what describes structure of the milk producer sector. Only about 60 percent (170,000 dairy farms) can actually be categorized as commercial dairy farm operations. However, the data do reveal that even through this entire post World War II period, with the Federal dairy programs that have been operative (price supports, Federal market orders, Section 22 import quotas, and some anti-trust protection for marketing cooperatives), the fewer and larger phenomenon has moved at a rapid pace. Yet, the milk industry continues to be a family farm industry. I do not know of a single dairy farm in the state of Ohio, for example, that can be construed as being anything other than a family farm enterprise. Census of Agriculture data confirm that dairying is the least concentrated of seventeen major agricultural enterprises. In 1974, the largest 10 percent of dairy farms in the U.S. produced only 38.2 percent of total output; the smallest 10 percent produced 0.8 percent of total output (poultry at the other end of the scale was 96.2 percent and 0.2 percent).

Demand

The market or demand issue must also be considered. When we look at the market for U.S. milk production, we have to confine ourselves almost exclusively to the domestic market. Exports of dairy products are very limited (generally less than 2 percent of our production) and show little potential due to relatively high domestic prices, GATT policies that protect market shares of other exporting countries, and limited total international dairy trade.

The market for milk, aggregate demand, therefore becames a function almost exclusively of two factors: population growth and per capita consumption in the United States.

Population -- Since the mid-1970s, population growth in the United States has averaged almost exactly on 1 percent per year.[2] We currently stand at 237.0 million people, with an addition of slightly over 2 million in population each year.

Per Capita Consumption -- Per capita consumption of milk and dairy products has been almost a constant in the past fifteen years. Note the data recorded in Table 2.

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[2] Statistical Abstract of the United States - 1984, 104th edition, U.S. Dept. of Commerce, p. 6.

Table 2. Per Capita Consumption of Dairy Products, U.S., 1970-1983

Year	Per Capita Consumption	
	Commercial Sources	All Sources*
1970	511 Lbs. Milk Equivalent	561 Lbs. Milk Equivalent
1980	509	544
1983	517	578

*All sources includes milk consumed on farms and USDA donations.

Source: Dairy Situation, ERS-USDA, September, 1984, p. 18.

An increase in per capita consumption from commercial sources occurred in 1984 (probably to about 526 pounds), but the data have not yet been reported. But the point is that we appear to be in an extended period of stable overall per capita consumption of dairy products. The national generic promotion effort (15 cent per cwt. assessment) now underway is accomplishing some positive things, but as a long run activity, its key achievements may be greater in terms of preventing erosion of per capita consumption as compared to making any significant increase in per capita consumption.

We should continue to increase the aggregate commercial demand for milk by about one percent per year based on population growth. That is a challenge in itself because it assumes that per capita consumption of dairy products will not be adversely affected by substitutes or negative nutrition attacks. Increases in aggregate commercial demand beyond 1 percent per year (which is about 1¼ billion pounds more milk demanded each year) will

require increases in per capita consumption -- not easily accomplished.

Dairy Policy Questions -- The comments I would advance on dairy policy are limited to dairy price support. We have had an on-going price support program for milk since it was authorized by the Agricultural Act of 1949. For the most part, it has been a good thing. It has lent price stability to the dairy industry even while it permitted the resource adjustment, restructuring, and efficiency gains noted earlier. Furthermore, except for the soon to end diversion program, it has accomplished these purposes with minimal involvement of the government in producer decision-making. Unfortunately, in the 1979-1983 period, support prices stood at high levels that, in the absence of production controls, generated costly surpluses. That is why we are now looking at overhauling dairy price supports.

I have three major questions on dairy price support that I would raise and then offer some quick and subjective answers.

1. Should we continue to have a dairy price support program, better stated as what should be the OBJECTIVE of the price support program?

We hear a lot of fat words on objectives. On the one side, we hear parity or family farm or adequate supply or price enhancement or price stability. On the other side we hear market oriented

or safety net or ease adjustment or price stability or encourage demand. While we probably all would like to see all of these objectives achieved, several are in direct conflict with one another. So we have to make a choice. The choice is further defined by recognizing that any price support program that carries price enhancement will necessarily mean production controls (base plans) at the farm while a market oriented support price avoids the need for production controls.

In most years in the 1950 through 1977 period, the dairy support price basically reflected a market oriented level, evidence being that we did not generate chronic surpluses. Recently, I participated in a group effort with other agricultural economists that recommended a market oriented support price. The market oriented support price should be a "safety net"; furthermore a safety net price, as we defined it, is "a long run price which over the course of 10 years or more should average below the long-run market clearing price by 5 to 10 percent." While the support price would be influenced by market conditions, it would always be there as an assurance to producers that market disaster was not in the offing.

In my view, the safety net as defined is a reasonable objective for dairy price support. But I also recognize that as we look ahead to the dramatic changes in milk production technology, a safety net support price could mean more rapid adjustments in the

dairy sector than we are willing to accept. The toughest question to answer in dairy price support is -- "What should be the objective?"

2. The second question concerns what concept should we use to regularly adjust the support price? For example, at the start of a new marketing year on each October 1, what measure do we look to in order to come up with the new support price? Parity has been the historic measure, but virtually everyone is agreed that parity is no longer a credible standard. Alternatives include (1) cost pricing (either a dairy specific parity index or a cost of milk production index), (2) a market standard (supply-demand adjuster mechanism), (3) legislation (the way our current $12.60 support price was established), or (4) an annual national public hearing.

In my view, a combination of a cost pricing mover (index) and a supply-demand adjuster mechanism makes the most sense. The cost pricing mover could either be a carefully reviewed dairy parity index or an annual cost of production study along the lines of those issued by the U.S. Department of Agriculture. However, no automatic price mover ever has been or ever will be perfect. Market conditions cannot be ignored in the price support decision. Therefore, a supply-demand adjuster can be an effective means of adjusting the cost price and finally announce a more realistic support price.

An example of a supply-demand adjustment schedule some of us have recently advanced would adjust the preliminary support price on the basis of anticipated CCC purchases of dairy product.

Estimated CCC Purchases In New Marketing Year	Supply-Demand Adjustment to Preliminary Support Price
Less than 1 Bil. Lbs. m.e.	+ 4 Pct.
1 - 2	+ 2
2 - 4	0
4 - 5	- 3
5 - 6	- 5
More than 6 Bil. Lbs. m.e.	- 8 Pct.

The concepts I have outlined here are workable. They can give us consistent, relevant, and acceptable support prices. In some recent material, I summarized the role of a supply-demand adjuster as follows:

"Implementation of a supply-demand adjuster would fine-tune the way that things have been done. It is intended to help prices more closely reflect market conditions and to avoid the surplus milk or price instability problems generated when support prices are allowed to become far out of synch with the market.

"To the extent that supply and demand conditions must be recognized in establishing the support price, the adjuster mechanism provides an objective and effective means of making such adjustments. In the absence of production controls, some formal or informal type of a supply-demand adjuster to the support price is essential."[3]

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[3]Jacobson, Robert E., Dairy Policy Options For 1985, "Supply-Demand Adjuster Pricing," ESS 613, Ohio State University, Feb., 1985.

3. What kind of a program should we use to implement the dairy support program? The alternatives that I believe are most relevant at this juncture are outlined as follows:

A. CCC PURCHASES -- with market oriented support price; no supply management.

B. CCC PURCHASES -- with enhanced support price
   1. Voluntary supply management, with economic incentives to participate.
   2. Mandatory supply management, with economic penalties for exceeding production

C. TARGET PRICE / DEFICIENCY PAYMENTS
   1. Low target price without supply management
   2. High target price with voluntary or mandatory supply management.

Any one of the five listed alternatives is workable. Clearly they have different objectives -- market orientation versus price enhancement. That is why it is so essential that the objectives question be answered early on. Historically, we have found ourselves using Alternative A exclusively. Instigation of the 15 month diversion program on January 1, 1984 found us resorting to Alternative B-1. What next?

To contrast CCC purchases with target prices/deficiency payments, let me offer some pros and cons on the two programs assuming a market oriented support level for both.

A. CCC Purchases

1. Arguments For --

a. Minimum government involvement with producers.

b. Makes necessary product available for school lunch, etc.

c. Reasonable program costs unless support price gets too high.

d. Proven history of performance, especially price stability.

2. Arguments Against --

a. Places burden of price support for all milk on three products -- butter, cheese, and nonfat dry milk.

b. Makes it too easy to sell to CCC as compared to having to seek markets.

c. Extends price benefits to producers on a cwt. basis; therefore larger volume producers get more benefit.

B. Target Prices/Deficiency Payments

1. Arguments For --

a. Establishes market clearing prices for all dairy products; strong demand emphasis.

b. Would increase pressures on industry to promote merchandise and market dairy dairy products.

c. Would support producer income directly rather than use product prices to support income.

d. Could be more directly geared to extending income benefits on a need basis as compared to a volume basis.

2. Arguments Against --

a. Has potential for being a costly program unless tightly specified.

b. Would be disruptive for some time to the manufactured dairy products industry.

c. Has been used in other commodity programs and not resolved the problem.

I am sure there are other arguments for and against these alternative approaches to dairy support -- price support in the instance of CCC purchases and income support in the instance of deficiency payments. My inclination would be to stay with CCC

purchases if a market oriented support price is adopted as an objective. If price enhancement is the price support objective, then deficiency payments (with supply management) make more sense because we must keep dairy products competitive in the market place in the long run.

Short Term Projections

We only need to look about 5 years down the road to have our concerns deepened about what we want our milk industry to look like. Let me offer the following projections on demand, supply, and structure to the year 1990 to challenge the issue.

1. Demand -- As noted previously, aggregate commercial demand is a function of population and per capita consumption. Assuming that we maintain our 1 percent annual population growth through 1990, we will attain a population in that year of 250.5 million.

Assuming a per capita consumption level of 525 pounds in the commercial market, the total demand for milk in the U.S. will be 131.5 billion pounds in 1990. As an option, a 550 pound per capita consumption level would mean a demand of 137.8 billion pounds.

2. Supply -- In order to predict future milk supply, the normal process is to estimate demand and assume that in the long run, supply will equal demand.

Production per cow in the U.S. in 1985 averaged 12,500

pounds. A 300 pound increment each year (or an increase of slightly over 2 percent) reflects a relatively cautious projection, and would place us at 14,300 pounds per cow in 1990. (California is already at the 15,799 pound level in 1984.)

In 1990, a national dairy herd averaging 14,300 pounds per cow would need only 9.2 million milk cows to supply a 131.5 billion pound commercial demand. Our national dairy herd today numbers 10.8 million milk cows. The necessary reduction of 1.6 million milk cows to balance the market suggests a needed 15 percent reduction in our national dairy herd in the next 5 years.

The more optimistic consumption level of 550 pounds per capita (137.8 billion pounds aggregate demand) would still mean that the national dairy herd must drop to 9.6 million milk cows by 1990.

(In these calculations, it is recognized that dairy farmers keep back slightly over 2 billion pounds of milk each year on their farms. However, the 2 billion pounds of milk produced that is not marketed is just about offset by the 2 billion pounds of milk imported each year. Therefore, the numbers used in these calculations reflect a realistic supply-demand balance to the extent that the assumptions are good).

3. Structure -- An estimate was advanced earlier that we now have 171,000 commercial dairy farms in the United States. If our entire dairy herd was totally located on these 171,000 farms, we would have an average herd size of 63 cows in the U.S. today

(10.8 million cows divided by 171,000 farms). On the basis of recent trends, it is reasonable to assume that an average herd size of 85 cows will prevail in 1990. In that case --

(1) 108,000 farms x 85 cows (14,300 lbs.) = 9.2 Mil. Cows

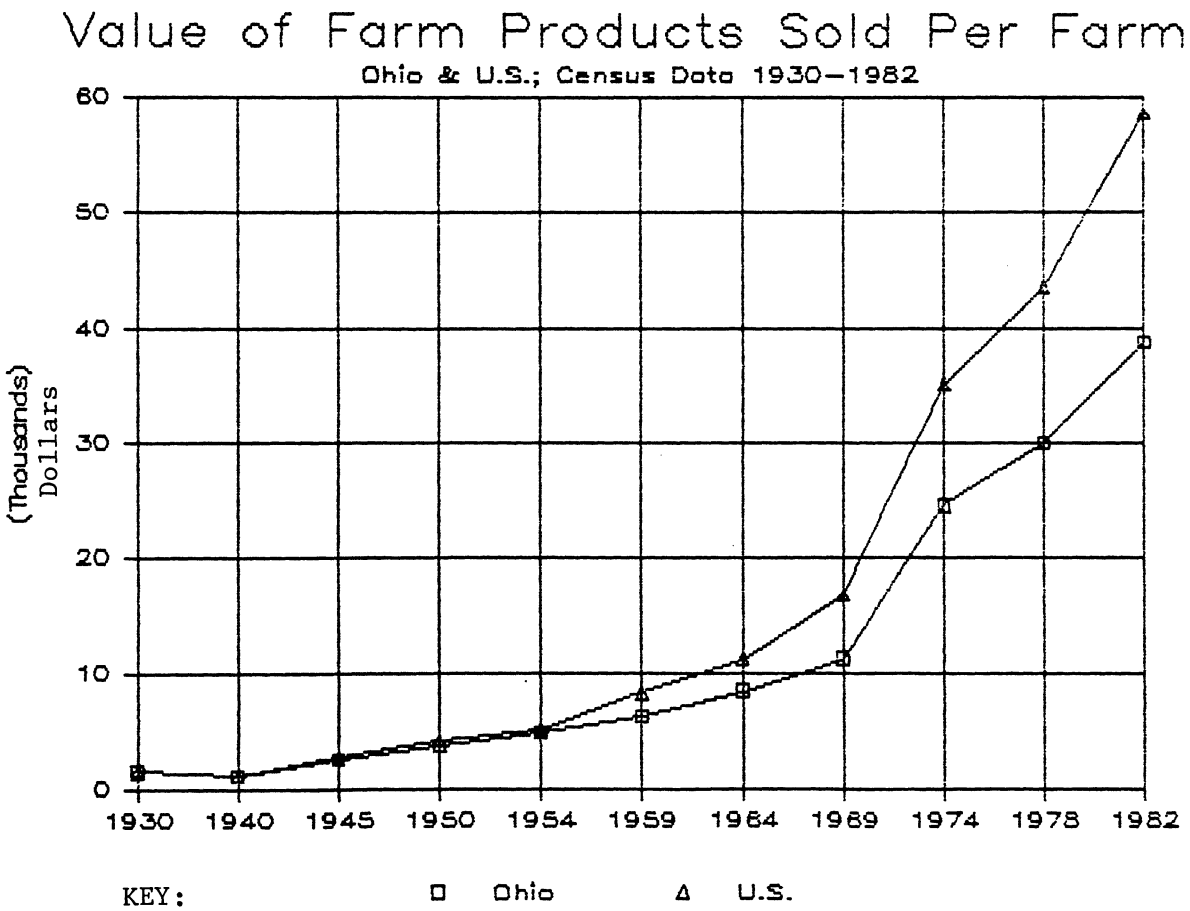
or (higher consumption level)

(2) 113,000 farms x 85 cows (14,300 lbs.) = 9.6 Mil. Cows

Regardless, any adjustment from 171,000 commercial dairy farms today down towards the 100,000 dairy farm level in a short five year time period suggests a major restructuring by any measure. Over the long run, as the impacts of bovine growth hormone, embryo transplants, and other bio-tech gains in milk production occur, further concentration is a certainty.

The technology driven push, that continues to move supply faster than demand, will bring on much greater pressure for supply control from the producer sector. That is why it becomes more important now that we try as best we can to decide on what should be the objective of dairy price policy. Some insulation from the rate of restructuring suggested here can be achieved through supply management plans. The choices may be clear, but that does not make it easier to choose.

FIGURE 4



SOURCE:

U.S. Department of Commerce. Census of Agriculture (for each of the years included in Figure 4).